

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. [Currently Amended] A method of providing dynamic Quality of Service (QoS) treatment of data traffic within a secure Virtual Private Network (VPN) tunnel, the method comprising the steps of:

querying a policy database to obtain QoS information concerning a desired QoS treatment for data traffic within the VPN tunnel;

forwarding the QoS information through the VPN tunnel to a VPN gateway at an opposite end of the VPN Tunnel; and

subsequently attaching a QoS marker based on the QoS information to the data traffic within the VPN tunnel.
2. [Previously Amended] The method as claimed in claim 1, wherein the QoS information obtained from the policy database comprises the QoS marker.
3. [Previously Amended] The method as claimed in claim 1, wherein the QoS information obtained from the policy database comprises Tspec and Rspec parameters indicative of the desired QoS treatment.
4. [Previously Amended] The method as claimed in claim 3, wherein the step of attaching a QoS marker comprises the steps of:

mapping the Tspec and Rspec parameters to the QoS marker; and

inserting the QoS marker into a predetermined field of a header portion of the data traffic within the VPN tunnel.
5. [Previously Amended] The method as claimed in claim 4, wherein the QoS marker is a Differentiated Services Code Point (DSCP) value.

6. [Previously Amended] The method as claimed in claim 1, wherein the step of obtaining an indication of a QoS treatment further comprises the steps of:
obtaining, from a customer, an indication of a desired QoS treatment;
confirming an availability of the desired QoS treatment; and
if the desired QoS treatment is available, updating the policy database with information respecting the desired QoS treatment.
7. [Previously Amended] The method as claimed in claim 6, wherein the step of confirming an availability of the desired QoS treatment comprises any one or more of the steps of:
determining whether or not the VPN tunnel has sufficient available bandwidth to support the desired QoS; and
comparing the desired QoS to a Service Level Agreement (SLA).
8. [Previously Amended] The method as claimed in claim 1, wherein the step of querying the policy database is performed at a start of the communications session.
9. [Previously Amended] The method as claimed in claim 8, wherein the step of querying the policy database is performed in response to a session initiation message received from the customer.
10. [Previously Amended] The method as claimed in claim 1, wherein the step of querying the policy database is performed during the communications session.
11. [Previously Amended] The method as claimed in claim 10, wherein the step of querying the policy database is performed at predetermined intervals during the communications session.
12. [Previously Amended] The method as claimed in claim 10, wherein the step of querying the policy database is performed in response to a query request from either one of the customer and a service provider.

13. [Previously Amended] The method as claimed in claim 10, wherein the step of querying the policy database is performed in response to a change in the information respecting QoS treatment stored in the policy database.
14. [Previously Amended] The method as claimed in claim 1, further comprising a step of notifying a service provider of the indicated QoS treatment.
15. [Previously Amended] The method as claimed in claim 14, wherein the step of notifying the service provider is performed at a start of the communications session.
16. [Previously Amended] The method as claimed in claim 14, wherein the step of notifying the service provider is performed in response to a change in the indicated QoS treatment.
17. [Currently Amended] A VPN gateway adapted to provide dynamic QoS treatment of data traffic within a secure VPN tunnel, the gateway comprising:

means for querying a policy database to obtain QoS information concerning a desired QoS treatment for data traffic within the VPN tunnel;

means for forwarding the QoS information through the VPN tunnel to a VPN gateway at an opposite end of the VPN Tunnel; and

means for subsequently attaching a QoS marker based on the QoS information to the data traffic within the VPN tunnel.
18. [Previously Amended] The VPN gateway as claimed in claim 17, wherein the QoS information obtained from the policy database comprises the QoS marker.
19. [Previously Amended] The VPN gateway as claimed in claim 17, wherein the QoS information obtained from the policy database comprises Tspec and Rspec parameters indicative of the desired QoS treatment.
20. [Previously Amended] The VPN gateway as claimed in claim 19, wherein the means for attaching a QoS marker comprises:

means for mapping the Tspec and Rspec parameters to the QoS marker; and
means for inserting the QoS marker into a predetermined field of a header portion of the data traffic within the VPN tunnel.

21. [Previously Amended] The VPN gateway as claimed in claim 20, wherein the QoS marker is a Differentiated Services Code Point (DSCP) value.
22. [Previously Amended] The VPN gateway as claimed in claim 17, further comprising means for receiving a QoS request message indicative of the desired QoS treatment.
23. [Previously Amended] The VPN gateway as claimed in claim 17, wherein the means for forwarding the QoS information through the VPN tunnel comprises:
a policy update message adapted to convey the QoS information through the VPN tunnel; and
means for inserting the QoS information into a payload portion of the policy update message.
24. [Previously Amended] The VPN gateway as claimed in claim 23, wherein the policy update message is an ISAKMP/IKE message having a predetermined unique “Next Payload” type.
25. [Previously Amended] The VPN gateway as claimed in claim 17, wherein the policy database is queried at a start of the communications session.
26. [Previously Amended] The VPN gateway as claimed in claim 25, wherein the means for querying the policy database is responsive to a session initiation message received from the customer.
27. [Previously Amended] The VPN gateway as claimed in claim 17, wherein the policy database is queried during the communications session.

28. [Previously Amended] The VPN gateway as claimed in claim 27, wherein the policy database is queried at predetermined intervals during the communications session.
29. [Previously Amended] The VPN gateway as claimed in claim 27, wherein the means for querying the policy database is responsive to a query request from either one of the customer and a service provider.
30. [Previously Amended] The VPN gateway as claimed in claim 27, wherein the means for querying the policy database is responsive to a change in the information respecting QoS treatment stored in the policy database.
31. [Previously Amended] The VPN gateway as claimed in claim 17, further comprising means for notifying a service provider of the indicated QoS treatment.
32. [Previously Amended] The VPN gateway as claimed in claim 31, wherein the means for notifying the service provider is adapted to send a notification message to the service provider at a start of the communications session.
33. [Previously Amended] The VPN gateway as claimed in claim 31, wherein the means for notifying the service provider is adapted to send a notification message to the service provider in response to a change in the indicated QoS treatment.